DOCUMENT RESUME

ED 215 765 PS 012 807

AUTHOR Lipsitt, Lewis P.
TITLE Enduring Influences of Early Experience.
PUB DATE 81
NOTE 5p.; Summary of Presidential Address presented at the Annual Meeting of the American Psychological Association (89th, Los Angeles, CA, August 24-28, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Child Development; *Early Experience; *Emotional Development; High Risk Persons; *Infants; *Neurological Organization; Research Needs; *Sensory Experience
IDENTIFIERS Reflexes; Sudden Infant Death Syndrome

ABSTRACT

Implications of three basic facts about very young infants are delineated in this summary. Normally, human infants are capable of a wide range of functions, such as "appetitive responses" (e.g., the rooting reflex) and defensive maneuvers. They experience pleasure and feel pain. Additionally, they undergo a transition from subcortical to cortical functioning that is developmentally critical. As a result of various conditions, fundamental abilities of infants may be compromised. With severe consequences for emotional development, infants may fail to learn that their behavior is instrumental in arranging the environment for pleasure and for removing annoyances. Also, some infants may not successfully make the difficult transition from subcortical to cortical mediation. Since at the present time many infants born at risk with deficits and debilities survive, it is possible that individual differences are now larger than at any previous time in the history of mankind. Infants who are compromised physiologically through unfortunate histories of risk should be carefully studied to provide information concerning behavioral and neurophysiological change. Periods of confusion and disorganization during the transition to cortical mediation should also be studied in view of the fact that some 90 per cent of all crib deaths occur within the age period when behavioral perturbation often seems concentrated. (Author/RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED215765

from the Newsletter, American Psychological Association
Division on Developmental Psychology
Fall, 1981

SUMMARY OF PRESIDENTIAL ADDRESS

Enduring Influences of Early Experience

Lewis P. Lipsitt
Brown University

EXCERPTED FROM THE PRESIDENTIAL ADDRESS PREPARED FOR PRESENTATION AT THE LOS ANGELES MEETINGS OF THE DIVISION ON DEVELOPMENTAL PSYCHOLOGY OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, AUGUST 26, 1981.*

The modest grandeur of occasions like these has a tendency to arouse a smidgen of grandiosity, even in the most humble among us. I avail myself of the moment to take full advantage. There are certain truths about the enduring influences of early experience which by now I hold to be self-evident and which I enjoy reciting in open spaces. An audience as sophisticated, and with such obvious good taste as this one, is a special pleasure, because it enables me to avoid suspicion that I am merely baying at the moon.

A. Infants are really able.

Human newborns normally arrive in the world with all of their sensory systems functioning. There are individual differences in the sensory and psychomotor capabilities of infants in the first few days of life, some of these differences being of an obvious hereditary nature, others of obvious congenital origins, and still others seemingly based upon perinatal or immediately postnatal experience. Examples of these three sources of measurable difference would be, respectively, inherited compromise of sight, deafness due to maternal rubella, and sucking-style differences in breast- and bottle-fed infants. With it all, most human newborns can see, hear, feel skin contact, respond to odorants, and even adjust their sucking rates to accord in a systematic way with the taste of the fluid for which they are sucking. They have a wonderful array of appetitive responses, including the rooting reflex. They are capable also of engaging in remarkably well coordinated defensive maneuvers if threatened with respiratory occlusion or other noxious intrusions.

Many of the behavioral and sensory compromises present in the neonate are directly attributable to prenatal and birth hazards, at least some of which are probably avoidable through changes in the circumstances which tend to promote these casualties. Recent technological advances made in the biochemical and genetic assays which can be done with the developing fetus, coupled with the enormous progress made in the care of the high-risk newborn leading to a very significant reduction in neonatal mortality rates, have heralded a new era of parent-child relations (and a host of associated psycho-ethical problems). Many facets of the reproductive and survival process are now matters of parental self-regulation and professional collusion. There are important implications here for the quality-of-survival

PS012807

*The Presidential Address was dedicated to the memory of Professor Alfredo Castaneda, late of Stanford University.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Lewis P. Lipsitt
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

issue, which connects in interesting ways with other matters of concern to developmental psychologists: sensory capacity, learning potential, psychomotor development, dependency, parental guilt, and so on. The great strides made in the care and treatment of the high-risk neonate (and fetus) strongly imply that individual differences among the survivors are now larger than at any previous time in the history of mankind, involving greater numbers of infants with deficits and debilities growing to maturity.

B. Infants experience pleasure and feel pain.

Human infants are born with the capacity, to a greater or lesser extent, and unquestionably compromised in babies born at risk, for experiencing the pleasures and annoyances of sensation. These hedonic processes, mediated by physiological mechanisms that are by now quite well understood, allow reinforcers to work their wonders. Those responses that are followed by a satisfying state of affairs (i.e., a reinforcer) will tend to be repeated, and those that are not, or are followed by annoyance, will not. Thorndike lives, and he stands on the shoulders of P. T. Young. Pavlov, Watson, Tolman, Hull, Spence, and Skinner could have no learning theory, no systematic accounting of behavior change as a function of experience, without the law of effect and its cornerstone assumption that the organism must be capable of experiencing the pleasures and annoyances of sensation. Much too little attention is paid to the ontogeny of pleasure reception and pleasure seeking. Much too little attention is given to the fact that caretakers of infants are in prime positions to pleasure infants judiciously and thus to teach infants that their own behavior often determines the style in which and extent to which they are pleasured.

Failure to learn that one's own behavior is instrumental in arranging one's environment for pleasure, and removing one's annoyances, may be at the root of some serious developmental disorders. The understanding we now have of depression or hopelessness, through the work of Richter, Seligman, Beck, and others, is that it is attributable to or perhaps even synonymous with a condition of helplessness occasioned by failure in the self-regulation of reinforcing events. It is not unthinkable that some victims of the failure-to-thrive and sudden infant death syndromes may be understood in similar terms, such that experiential factors and some learned incapacities to cope with adverse environmental events are implicated. Failures to defend oneself adequately in situations requiring defensive maneuvers are frequent in adults and may not be uncommon in infancy. The defensive and appetitive reflexes with which the human is born are exceedingly important, both for early biological self-regulation and for the eventual development of mature patterns of behavior, acquired largely through mechanisms of learning embedded in the socialization process.

C. The transition from subcortical to cortical functioning is critical.

Many of the infantile reflexes begin to wane in intensity and ease of elicitation shortly after birth. The obligatory grasp reflex of the newborn, the rooting reflex, and the Moro response all undergo remarkable transformations over the first two or three months of life. Myrtle McGraw documented

these transitions elegantly, and attributed the systematic changes to the gradual takeover by the cortex of functions previously performed by subcortical structures. She pointed out that the obligatory or commanded quality of some of the reflexes gradually disappears, to be supplanted by a behavior pattern more suggestive of a deliberate, voluntary course of action. The infant no longer whips its fingers around the pencil in a tight grasp, but instead has a more relaxed response, seeming to prefer to explore the shape and texture of the pencil before effecting a grasp. The suggestion is that with increasing myelination and dendrite development the subcortically mediated behaviors are gradually inhibited or suppressed, in an accommodation to the increasing control exerted by the cerebral cortex.

The behavioral and neurophysiological changes that occur in the human over the first six months of life are remarkable indeed, and must be looked at anew to illuminate the functions of infancy. The psychobiological significance of infancy still remains quite obscure in many respects, and I believe this is why data are sparse in support of enduring effects of infantile characteristics and infant experience. It must be that the very disappearance of so many early-manifested characteristics, including the aforementioned reflexes, will provide a clue to the longitudinal significance of very early behavior and development. Although we cannot anesthetize babies for the first six months of life to discover empirically whether infancy is a waste of time, infants who are compromised physiologically through unfortunate histories of risk may be studied more carefully. We need more information as to just how the torch is passed from subcortical to cortical structures in mediating patterns of behavior first manifest as reflexes and then as increasingly mature congeries of behavioral networks.

Another respect in which the study of infantile behavior and its sequellae may inform us in important ways about its psychobiological significance is by exploring developmental perturbations. McGraw has shown that the transition from the obligatory reflex to a voluntary grasp response is not always a smooth one. In fact, most of these transitions from subcortical to cortical mediation involve periods of "confusion" and "disorganization," during which the infant seems not to be capable of executing either the infantile or the more mature pattern of behavior in a skillful manner. In the case of the aquatic reflex, which McGraw studied in detail, the intermediary phase is one in which the infant no longer has in its repertoire the effective, alternating leg and arm motions, with associated torso adjustments, and has not yet acquired the slower, deliberate "crawl stroke" of the more mature infant. Instead he or she seems to struggle in the water and turn over maladaptively. Each of the reflexes, as it wanes, seems to go through a period of disturbance of this sort prior to making an effective transition to the behavioral pattern which will eventually supplant the early reflex. Numerous studies have now shown that earlier manifested response patterns often disappear only to emerge later, with an altered topology and presumably under new neural auspices. Examples are infantile "imitative" tongue-thrusting in response to a model (Maratos), and certain features of auditory localization (Muir). The end of the period

of infantile reflexive responding, the conversion of some functions from subcortical to cortical mediation, and the occurrence of "confusion" or behavioral perturbation often seem concentrated within the age period from two to four months. It is interesting and suggestive that this is the age period during which some 90% of all crib deaths occur.

Epilogue: On continuity.

The preservation of sameness is not what development and developmental continuity are about. The essence of continuity is predictable and explicable change. That the tadpole and the frog do not look like one another or behave like one another does not mean that the later stages are discontinuous with the earlier. The same goes for the pupa and the butterfly. Nor does it mean that the later stages could not, can not, and may not be well predicted and understood in terms of the organism's earlier history. It is in the nature of life processes that change will occur, that some later stages of the same organism may bear only superficial resemblances to earlier, and that progressive, orderly, lawful, and understandable rules for these changes will be discovered.